



SEQUENCE LISTING

<110> New York Medical College

<120> Splice Choice Antagonists as Therapeutic Agents

<130> 51230-00601

<140> 09/849,967

<141> 2001-05-08

<160> 7

<170> PatentIn version 3.3

<210> 1

<211> 1689

<212> DNA

<213> chicken

<220>

<221> misc_feature

<222> (1)..(1689)

<223> Full length cDNA sequence of chicken hnRNP A1.

<220>

<221> misc_feature

<222> (141)..(1276)

<223> Open reading frame of cDNA sequence from chicken hnRNP A1.

<400> 1

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gagttagagt acccttccaa aatggctgct attaaggaag agagagaggt ggaagattac	180
aagagaaaaaa ggaagacgat cagcacaggc catgagccta aggagccaga gcagttgaga	240
aagctgttca ttggaggtct gagcttcgag acgacggatg atagcttgag agagcacttt	300
gaaaaatggg gcacactcac ggactgtgtg gtgatgagag acccacaaac aaaacgttcc	360
agaggctttg gctttttac ttactcttgc gtggaaagagg tggatcgcc catgagcgt	420
cgaccacata aggtggatgg acgtgtgggtt gaaccaaaga gagcagttc aagggaggat	480
tctgtaaagc ctggggcgca tctcacagta aagaaaatat ttgttgttgg cattaaagaa	540
gatacagaag aatataattt aagggggtac tttgaaacat atggcaagat cgaaacgata	600
gaagtcatgg aagacagaca aagtggaaag aaaagaggct tcgctttgt aactttgtat	660
gatcacgata cagttgataa aattgttgtt cagaaatacc atactataaa tggtcataaac	720
tgcgaagata aaaaagcact ctcaaaacaa gagatgcaga ctgccagtc tcagagaggt	780
cgtgggggtg gttcaggcaa cttcatgggt cgtggaaatt ttggaggtgg tggaggaaac	840
tttggccgag gaggaaacctt tggtggaaaga ggaggctatg ggggtggtgg tggcggtgg	900
gggagcagag gaagcttgg gggtggtgat ggatacaacg gatttggtga tggtggcaac	960

tatggaggtg	gtcctggcta	tggcagcaga	gggggttatg	gtgggttgttgg	aggaccagga	1020
tatggaaacc	caggttgtgg	atatggaggt	ggaggaggag	gatatggtgg	ctacaatgaa	1080
ggaggcaatt	ttggaggtgg	taattatgga	ggcagtggaa	actacaatga	cttggtaac	1140
tacagtggac	agcagcagtc	caattacggt	cccatgaaag	gtggtggcag	tttttgttgtt	1200
agaagttcag	gcagtccta	tggttgttgtt	tatggatctg	gaagtggaaag	tggggctat	1260
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gaggaactgt	aaaatctgcc	acagaaggaa	cgtatgatcca	tagtcagaaa	agttactgca	1440
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gctatttgtt	aatgcaatgt	agtgtcgta	gatgtacatc	ctgaggtctt	tatctgttgt	1560
agctttgtct	ttcttttttc	tttttatttt	cccattacat	caggtatatt	gccctgtaaa	1620
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aaaaaaaaaa						1689

<210> 2
 <211> 378
 <212> PRT
 <213> Chicken

<220>
 <221> PEPTIDE
 <222> (1)..(378)
 <223> Amino acid sequence of chicken hnRNP A1

<400> 2

Met Ala Ala Ile Lys Glu Glu Arg Glu Val Glu Asp Tyr Lys Arg Lys
1 5 10 15

Arg Lys Thr Ile Ser Thr Gly His Glu Pro Lys Glu Pro Glu Gln Leu
20 25 30

Arg Lys Leu Phe Ile Gly Gly Leu Ser Phe Glu Thr Thr Asp Asp Ser
35 40 45

Leu Arg Glu Gln Phe Glu Lys Trp Gly Thr Leu Thr Asp Cys Val Val
50 55 60

Met Arg Asp Pro Gln Thr Lys Arg Ser Arg Gly Phe Gly Phe Val Thr
65 70 75 80

Tyr Ala Thr Val Glu Glu Val Asp Ala Ala Met Ser Ala Arg Pro His
85 90 95

Lys Val Asp Gly Arg Val Val Glu Pro Lys Arg Ala Val Ser Arg Glu
100 105 110

Asp Ser Val Lys Pro Gly Ala His Leu Thr Val Lys Lys Ile Phe Val
115 120 125

Gly Gly Ile Lys Glu Asp Thr Glu Glu Tyr Asn Leu Arg Gly Tyr Phe
130 135 140

Glu Thr Tyr Gly Lys Ile Glu Thr Ile Glu Val Met Glu Asp Arg Gln
145 150 155 160

Ser Gly Lys Lys Arg Gly Phe Ala Phe Val Thr Phe Asp Asp His Asp
165 170 175

Thr Val Asp Lys Ile Val Val Gln Lys Tyr His Thr Ile Asn Gly His
180 185 190

Asn Cys Glu Asp Lys Lys Ala Leu Ser Lys Gln Glu Met Gln Thr Ala
195 200 205

Ser Ser Gln Arg Gly Arg Gly Gly Ser Gly Asn Phe Met Gly Arg
210 215 220

Gly Asn Phe Gly Gly Gly Gly Asn Phe Gly Arg Gly Gly Asn Phe
225 230 235 240

Gly Gly Arg Gly Gly Tyr Gly Gly Gly Gly Gly Gly Ser Arg
245 250 255

Gly Ser Phe Gly Gly Asp Gly Tyr Asn Gly Phe Gly Asp Gly Gly
260 265 270

Asn Tyr Gly Gly Pro Gly Tyr Gly Ser Arg Gly Gly Tyr Gly Gly
275 280 285

Gly Gly Gly Pro Gly Tyr Gly Asn Pro Gly Gly Gly Tyr Gly Gly
290 295 300

Gly Gly Gly Tyr Gly Gly Tyr Asn Glu Gly Gly Asn Phe Gly Gly
305 310 315 320

Asn Tyr Gly Gly Ser Gly Asn Tyr Asn Asp Phe Gly Asn Tyr Ser Gly
325 330 335

Gln Gln Gln Ser Asn Tyr Gly Pro Met Lys Gly Gly Ser Phe Gly
340 345 350

Gly Arg Ser Ser Gly Ser Pro Tyr Gly Gly Gly Tyr Gly Ser Gly Ser
355 360 365

Gly Ser Gly Gly Tyr Gly Gly Arg Arg Phe
370 375

<210> 3
<211> 320
<212> PRT
<213> Homo sapiens

<220>
<221> PEPTIDE
<222> (1)..(320)
<223> Amino acid sequence of human hnRNP A1
<400> 3

Met Ser Lys Ser Glu Ser Pro Lys Glu Pro Glu Gln Leu Arg Lys Leu
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Phe Ile Gly Gly Leu Ser Phe Glu Thr Thr Asp Glu Ser Leu Arg Ser
20 25 30

His Phe Glu Gln Trp Gly Thr Leu Thr Asp Cys Val Val Met Arg Asp
35 40 45

Pro Asn Thr Lys Arg Ser Arg Gly Phe Gly Phe Val Thr Tyr Ala Thr
50 55 60

Val Glu Glu Val Asp Ala Ala Met Asn Ala Arg Pro His Lys Val Asp
65 70 75 80

Gly Arg Val Val Glu Pro Lys Arg Ala Val Ser Arg Glu Asp Ser Gln
85 90 95

Arg Pro Gly Ala His Leu Thr Val Lys Lys Ile Phe Val Gly Gly Ile
100 105 110

Lys Glu Asp Thr Glu Glu His His Leu Arg Asp Tyr Phe Glu Gln Tyr
115 120 125

Gly Lys Ile Glu Val Ile Glu Ile Met Thr Asp Arg Gly Ser Gly Lys
130 135 140

Lys Arg Gly Phe Ala Phe Val Thr Phe Asp Asp His Asp Ser Val Asp
145 150 155 160

Lys Ile Val Ile Gln Lys Tyr His Thr Val Asn Gly His Asn Cys Glu
165 170 175

Val Arg Lys Ala Leu Ser Lys Gln Glu Met Ala Ser Ala Ser Ser Ser
180 185 190

Gln Arg Gly Arg Ser Gly Ser Gly Asn Phe Gly Gly Gly Arg Gly Gly
195 200 205

Gly Phe Gly Gly Asn Asp Asn Phe Gly Arg Gly Gly Asn Phe Ser Gly
210 215 220

Arg Gly Gly Phe Gly Gly Ser Arg Gly Gly Gly Tyr Gly Gly Ser
225 230 235 240

Gly Asp Gly Tyr Asn Gly Phe Gly Asn Asp Gly Ser Asn Phe Gly Gly
245 250 255

Gly Gly Ser Tyr Asn Asp Phe Gly Asn Tyr Asn Asn Gln Ser Ser Asn
260 265 270

Phe Gly Pro Met Lys Gly Gly Asn Phe Gly Gly Arg Ser Ser Gly Pro
275 280 285

Tyr Gly Gly Gly Gly Gln Tyr Phe Ala Lys Pro Arg Asn Gln Gly Gly
290 295 300

Tyr Gly Gly Ser Ser Ser Ser Ser Tyr Gly Ser Gly Arg Arg Phe
305 310 315 320

<210> 4
<211> 1136
<212> DNA
<213> Chicken

<220>
<221> misc_feature
<222> (1)..(1136)
<223> Open reading frame of cDNA for chicken hnRNP A1

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gagcttcgag acgacggatg atagcttgag agagcacttt gaaaaatggg gcacactcac 180
ggactgtgtg gtgtgagag acccacaaac aaaacgttcc agaggcttg gctttgttac 240
ttactcttgc gtggaagagg tggatgcggc catgagcgct cgaccacata agtgtggatgg 300
acgtgtggtt gaaccaaaga gagcagttc aaggaggat tctgtaaagc ctggggcgca 360
tctcacagta aagaaaatat ttgttggtg cattaaagaa gatacagaag aatataattt 420
aagggggtac tttgaaacat atggcaagat cgaaacgata gaagtcatgg aagacagaca 480

aagtggaaag	aaaagaggct	tcgctttgt	aactttgat	gatcacgata	cagttgataa	540
aattgttgtt	cagaaatacc	atactataaa	tggtcataac	tgcgaagata	aaaaagcact	600
ctcaaaacaa	gagatcaga	ctgccagctc	tcagagaggt	cgtgggggtg	gttcaggcaa	660
cttcatgggt	cgtggaaatt	ttggaggtgg	tggaggaac	tttggccgag	gaggaaactt	720
tggtggaaaga	ggaggctatg	ggggtgttgg	tggcggtgg	gggagcagag	gaagctttgg	780
gggtgggtat	ggatacaacg	gatttggta	tggtgcaac	tatggaggtg	gtcctggcta	840
tggcagcaga	gggggttatg	gtggtgttgg	aggaccagga	tatggaaacc	caggtgggtgg	900
atatggaggt	ggaggaggag	gatatggtgg	ctacaatgaa	ggaggcaatt	ttggaggtgg	960
taattatgga	ggcagtggaa	actacaatga	ctttggtaac	tacagtggac	agcagcagtc	1020
caattacggt	cccatgaaag	gtggtggcag	ttttgggtgt	agaagttcag	gcagtcccta	1080
tggtgggtgt	tatggatctg	gaagtggaaag	tggggctat	ggtggtagaa	gattct	1136

<210> 5
<211> 10
<212> RNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(10)
<223> Exonic splice silencer (ESS) nucleic acid sequence for hnRNP A1

<400> 5

uagggcaggc 10

<210> 6
<211> 10
<212> RNA
<213> Chicken

<220>
<221> misc_feature
<222> (1)..(10)
<223> Exonic splice silencer (ESS) nucleic acid sequence for hnRNP A1

<400> 6

uagggagggc 10

<210> 7
<211> 8
<212> PRT
<213> Homo sapiens

<220>
<221> SITE

<222> (1)..(1)
<223> Xaa represents a Lysine or an Arginine

<220>
<221> SITE
<222> (3)..(3)
<223> Xaa represents a phenylalanine or tyrosine

<220>
<221> SITE
<222> (4)..(4)
<223> Xaa represents a glycine or alanine

<220>
<221> misc_feature
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> SITE
<222> (8)..(8)
<223> Xaa represents a phenylalanine or tyrosine

<400> 7

Xaa Gly Xaa Xaa Pro Val Xaa Xaa
1 5